

## **RECOMMENDATIONS OF THE FIMR TECHNICAL REVIEW PANEL BASED ON CASE REVIEWS OF LOS ANGELES COUNTY MATERNAL DEATHS 1994-1996**

### **Community Resources and Services:**

Increased availability of the following resources and services:

- family planning services to high-risk women, including long-acting contraceptives and sterilization.
- substance abuse programs, including outreach, education, and treatment for pregnant women.
- case management for high-risk pregnancies.
- health and social services for homeless women.
- mental health care for women.

Improved outreach to high-risk women to encourage prenatal care.

### **Records/Communication to Other Providers:**

Improved communication:

- from prenatal care providers to delivery hospitals.
- of consultation results to primary provider.

Review of guidelines for notification of physician of significant lab findings.

Improved signs and screening in clinics providing abortion services about risks of anesthesia.

Implementation of a unified electronic access system for patient records.

Quality improvement in medical and vital records.

Add field to death certificates to indicate recent pregnancy.

### **Patient education on danger signs:**

Prenatal education on the:

- signs and symptoms of ruptured ectopic pregnancies.
- urgent need for care for third trimester vaginal bleeding.
- risks of anesthesia and actions to decrease risk.

### **Level of care/risk assessment:**

Change in the hospital classification system to include maternal as well as neonatal risks.

Appropriate level of prenatal and hospital care for high-risk patients.

Quality assurance program to monitor use of appropriate level of care.

Provider training on:

- triage standards.
- criteria for transfer to the intensive care unit.

Referral of high-risk patients from outpatient clinics to hospitals for abortion services.

Patient education on the need to go to a higher level of care for severe pregnancy complications.

Improved referral to high-risk obstetric care for incarcerated women.

Adherence to CPSP guidelines for risk assessment.

Risk-appropriate care, assessed from the first prenatal visit or before and through delivery.

Continuity of care:

Increased availability of case coordination and improved continuity of care.

Standards of Care:

Quality Assurance:

Quality assurance programs in obstetric departments.

Embolism:

Provider training on:

- complications of amnioinfusion and treatment of air embolism.
- screening for risks of thromboembolism and deep vein thrombosis.

Review of hospital policies on:

- immobilization after delivery.
- postpartum complaints of cardiovascular symptoms.

Medical Procedures:

Induction/Augmentation of Labor:

- Provider training on the use of oxytocin.

Cesareans:

- Patient and public education on the risks of cesarean deliveries.

- Provider training on:
  - the risk of placenta accreta with history of previous cesarean deliveries with current placenta previa.
  - indications for and risks of cesarean deliveries.
  - stabilization of patients before cesarean deliveries.

#### Infections:

##### Provider training on:

- diagnosis and treatment of  $\beta$ -hemolytic streptococcus infection.
- endometritis follow-up.

#### Management of medical conditions in pregnancy:

##### Provider training on the management of:

- diabetes mellitus
- systemic lupus erythematosus (SLE)
- renal disease
- hypertension
- pre-eclampsia
- molar pregnancies
- disseminated intravascular coagulopathies (DIC)
- heart disease

#### Staffing:

Examination of all pregnant emergency room patients by an obstetrician or nurse midwife before discharge.

Development of multidisciplinary teams for critical care.

Review of hospital policies on senior staff participation in surgeries.

Review of hospital policies on the use of supervising staff in teaching hospitals.

Postpartum Complications:

Provider training on:

- postpartum risks before the six-week follow-up visit.
- need for the anesthesiologist to stay until recovery room discharge.

Appropriate length of stay policies with extension safeguards for high-risk patients.

Office and public health nurse home visits after operative delivery before 6-week follow up.

Increased availability of mental health follow-up for postpartum psychosis.

Improved postpartum discharge instructions after complicated deliveries.

Fetal Maturity:

Provider training on chances of fetal viability at various gestational ages.

Hospital Review Maternal Deaths:

Formal multidisciplinary reviews of all maternal deaths.

## CONCLUSIONS

The FIMR Project review of Los Angeles County deaths during the years 1994-96 identified a total of 63 pregnancy-related deaths. The overall maternal mortality ratio during this period was 12 maternal deaths per 100,000 live births. The Year 2000 objective for maternal mortality is an MMR 3.3 overall and an MMR of 5 for African Americans. This objective has not been met.

The risks and causes of maternal mortality in this review were similar to other previously reported studies. The three main causes of pregnancy related deaths were hemorrhage, embolism and hypertension. The maternal mortality ratios in our review were higher for:

- women over 30 years of age;
- African Americans;
- women with little or no prenatal care; and
- women with higher numbers of previous live births.

More than a third of the maternal deaths were determined by the review panel to have a good or strong chance to be prevented. Three quarters of the deaths had at least some chance to be prevented. The most commonly cited contributing factors were:

- patients delaying or not seeking prenatal or emergency care;
- health care professionals not recognizing and properly managing risks;
- failure to consult with perinatologists or other specialists; and
- failure to refer patients to facilities equipped and staffed to handle high-risk pregnancies.

To decrease maternal mortality, the recommendations of the review panel address many types of contributing factors and deal with all stages of pregnancy, from improved women's health care and preconceptional counseling to postpartum education and follow-up. They recommended:

- increased services in the areas of substance use, family planning, social services for homeless women;
- case management for high-risk pregnancies;
- improved provider communication;
- quality improvement in medical and vital records;
- increased outreach to high-risk women to encourage early and continuous prenatal care;
- better risk assessment and appropriate level of patient care;
- patient education on danger signs during pregnancy; and
- provider training on management of high-risk conditions of pregnancy and management of obstetric emergencies.

We encourage ongoing efforts to monitor maternal mortality in Los Angeles County. We hope that wide dissemination of this report to health professionals and community-based organizations concerned with improving the outcomes of pregnancy will raise the level of awareness about these preventable deaths. Maternal mortality has decreased greatly in this century, but we can and must do better.